

Notice of Allowability

Application No.

10/646,658

Examiner

Eric B. Chen

Applicant(s)

LIANG, CHUNLIN

Art Unit

1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 21 October 2005.
2. ☒ The allowed claim(s) is/are 15-26.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

NADINE G. NORTON
SUPERVISORY EXAMINER

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below: in the Abstract, consolidate the two paragraphs into a single paragraph; in the amendment to the Specification, filed Oct. 21, 2005, after "filed April 9, 1999" insert – now U.S. Patent No. 6,642,557 --.

REASONS FOR ALLOWANCE

2. Claims 15-26 are allowed.

3. The following is an examiner's statement of reasons for allowance for claim 15: the prior art fails to teach or suggest etching the exposed semiconductor substrate to form a first undercut region subjacent to the first trench and a second undercut region subjacent to the second trench wherein a top portion of the T-shaped pedestal is disposed between the first trench and the second trench and *a stem portion of the T-shaped pedestal is disposed between the first undercut region and the second undercut region*. The closest prior art, Burton, discloses the forming a first trench and a second trench (Figure 8A) and a *single undercut region* (32) (column 4, lines 22-31), rather than a stem portion of the T-shaped pedestal is disposed between the first undercut region and the second undercut region.

4. The following is an examiner's statement of reasons for allowance for claim 26: the prior art fails to teach or suggest a first undercut region subjacent to the first trench and a second undercut region subjacent to the second trench wherein *the first undercut region is isolated from the second undercut region by a portion of the semiconductor*

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substrate. The closest prior art, Burton, discloses the forming a first trench and a second trench (Figure 8A) and a *single undercut region* (32) (column 4, lines 22-31), rather than the first undercut region is isolated from the second undercut region by a portion of the semiconductor substrate.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

6. In view of Applicant's amendments to claim 26 (Applicant's Amendments to the Claims, page 5), filed Oct. 21, 2005, the rejection of claim 26 under 35 U.S.C. 101 as claiming the same invention as claim 12 of prior U.S. Patent No. 5,972,758 has been withdrawn.

7. Applicant's arguments (Applicant's Remarks, page 8), filed Oct. 21, 2005, with respect to the rejection of claims 15-25 under the judicially-created doctrine of double patenting over Liang (U.S. Patent No. 5,972,758) have been fully considered and are persuasive. Applicant has pointed out that the Liang reference does not teach or suggest "etching the exposed semiconductor substrate to form a first undercut region subjacent to the first trench and a second undercut region subjacent to the second trench wherein a top portion of the T-shaped pedestal is disposed between the first trench and the second trench and a stem portion of the T-shaped pedestal is disposed

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between the first undercut region and the second undercut region" (page 8). The rejection of claims 15-25 has been withdrawn.

8. Applicant's arguments (Applicant's Remarks, page 8), filed Oct. 21, 2005, with respect to the rejection of claim 15 under 35 U.S.C. 103(a) as being unpatentable over Burton, in view of Wolf, in further view of Streetman, have been fully considered and are persuasive. Applicant has pointed out that the Burton reference does not teach or suggest "etching the exposed semiconductor substrate to form a first undercut region subjacent to the first trench and a second undercut region subjacent to the second trench wherein a top portion of the T-shaped pedestal is disposed between the first trench and the second trench and a stem portion of the T-shaped pedestal is disposed between the first undercut region and the second undercut region" (page 9). The rejection of claims 15-25 has been withdrawn.

9. Applicant's arguments (Applicant's Remarks, page 8), filed Oct. 21, 2005, with respect to the rejection of claim 26 under 35 U.S.C. 103(a) as being unpatentable over Burton, in view of Wolf, in further view of Gardner, have been fully considered and are persuasive (page 10), for similar reasons as discussed above. The rejection of claim 26 has been withdrawn.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B. Chen whose telephone number is (571) 272-

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2947. The examiner can normally be reached on Monday through Friday, 8AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine G. Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EBC
Nov. 22, 2005

A handwritten signature in black ink, appearing to be "EBC" followed by a long, sweeping horizontal stroke.